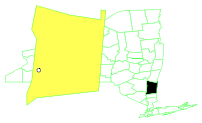
SHENANDOAH ROAD GROUND WATER CONTAMINATION SITE
NEW YORK
EPA ID# NYSFN0204269



EPA REGION 2
CONGRESSIONAL DIST. 19
Dutchess County
Town of East Fishkill

Site Description

The Shenandoah Road Ground Water Contamination site ("Site") is an area of contaminated groundwater which has impacted drinking water in the Town of East Fishkill in an area known as Shenandoah. The area impacted by the groundwater contamination is approximately one mile southwest of the intersection of Interstate 84 and the Taconic State Parkway. There are approximately 230 homes in the immediate vicinity of the Site, which is a predominantly residential area, with local residences obtaining water from individual wells which draw from the bedrock aquifer contaminated with volatile organic compounds (VOCs).

On April 13, 2000, the New York State Department of Health (NYSDOH) received information from a resident in the Shenandoah area which indicated possible contamination of a private residential well with PCE. Residential well sampling conducted at the Site by the NYSDOH and EPA since April 2000 has indicated that a total of 60 residential wells have been contaminated at or above the Federal maximum contaminant level (MCL) of 5 parts per billion (ppb) for PCE and/or trichloroethene (TCE). Treatment systems were installed on all of these wells to remove the contaminants of concern. MCLs are the maximum permissible levels of a contaminant that may be present in water used for drinking purposes. The levels of PCE range as high as 1,600 ppb.

Investigatory work, conducted in October 2000 by EPA and the New York State Department of Environmental Conservation (NYSDEC) at a former commercial facility at 7 East Hook Cross Road, discovered a 1,200 gallon metal septic tank containing materials exhibiting extremely high concentrations of tetrachloroethene (PCE). Information obtained by EPA and NYSDEC indicates the facility was used between the late 1960's and early to mid 1970's for the cleaning of microchip holders or "racks." According to former employees of the facility, waste cleaning solvent (PCE) from this process was discharged into the septic system. As a result of these investigations, the Site was proposed to the NPL. During excavation of the contaminated soil associated with the former septic tank, two addition PCE disposal areas were discovered. Also in August 2001, EPA discovered a buried "acid pit" behind the former 7 East Hook Cross Road facility. Based on the high levels of PCE detected in the soil surrounding the acid pit, it was likely used for disposal of PCE. The septic system, disposal areas, and the acid pit are believed to be the sources of groundwater contamination at the Site.

Site Responsibility: This Site is being addressed through federal, and potentially responsible party actions.

NPL LISTING HISTORY
Proposed Date: 01/11/2001
Final Date: 06/14/2001

Threats and Contaminants

Groundwater at the Site is contaminated with VOC's, primarily PCE. To a lesser extent, breakdown products of PCE including TCE have been detected as well. The horizontal extent of the PCE plume has been determined based on the sampling of approximately 230 residential wells at the Site. The plume has migrated radially from the source area at 7 East Hook Cross Road with a primary flow component to the north extending approximately 3,000 feet. The plume has also migrated approximately 2,000 feet to the south and east of the source area.

Contact with water containing VOCs, such as PCE, above the MCLs may cause an increased risk of adverse health effects from long-term exposure. Exposure to PCE can occur from ingestion of contaminated water, ingestion of food prepared with contaminated water, or inhalation of vapors from activities such as showering. PCE is considered a potential human carcinogen by the U.S. Department of Health and Human Services. The levels of PCE detected in residential wells above EPA's Removal Action Level (RAL) of 70 ppb for PCE posed an immediate threat to public health. The installation of residential well treatment systems and continued monitoring of affected homes and other nearby wells is addressing this immediate threat.

Cleanup Approach

This Site is being addressed in two stages: emergency response actions including providing a permanent alternate water supply for the affected residents, and a long-term remedial phase which will focus on remediating the contaminated groundwater.

Response Action Status

Immediate Actions: Following the discovery of the contaminated residential wells, EPA initiated an emergency response action at the Site and began delivery of bottled water to the affected residences in early June 2000. Of the 60 contaminated residential wells, 20 had contamination exceeding the RAL for PCE. Under the Superfund Program, if any contaminant concentration exceeds its RAL, EPA is authorized to take immediate, short-term action to address that contamination. As a result, point of entry treatment (POET) systems were installed by EPA in homes where the well was contaminated at or above MCLs to ensure a safe supply of water. POET systems include a cartridge particulate filter, two granular activated carbon tanks and an ultraviolet light. Three homeowners installed POET systems at their own cost prior to EPA's involvement in the Site. EPA has installed UV lights and particulate filters on these treatment systems and has assumed the full system maintenance. EPA is monitoring wells near the Site without POET systems to ensure that they meet drinking water standards. These actions were taken to protect the health of the public until a more

permanent solution can be implemented.

In November and early December 2000, EPA excavated the septic tank associated with the facility at 7 East Hook Cross Road and removed its contents for transportation and off-Site treatment and disposal. EPA also excavated contaminated soil associated with the septic tank which was temporarily stockpiled on Site. Based on field screening results and post-excavation soil sampling results collected by EPA, it was evident that high levels of PCE still remained in the soil beneath the facility. As a result, it was necessary for EPA to demolish the facility prior to excavation of the underlying contaminated soil. During excavation of the contaminated soil associated with the former septic tank, two addition PCE disposal areas were discovered. Approximately 4,800 tons of contaminated soil associated with the former septic tank and the two PCE disposal areas was staged at the Site and removed for off-Site disposal by a potentially responsible party (PRP) in August 2001. Also in August 2001, EPA discovered a buried "acid pit" behind the former 7 East Hook Cross Road facility. Field sampling results revealed high concentrations of PCE in the soil surrounding the acid pit and EPA directed the PRP to excavate the contaminated soil. Excavation activities associated with the former acid pit were completed in January 2002. Off-site disposal of approximately 2,000 tons of contaminated soil associated with the former acid pit was completed by January 2002.

Entire Site: EPA is currently negotiating with potentially responsible parties for the performance of the Remedial Investigation/Feasibility Study (RI/FS) investigation. The RI involves gathering of groundwater, surface water, and hydrogeological data needed to determine the nature and extent of contamination at the Site and the FS involves evaluating appropriate alternatives to address the contamination. In December 2001, EPA approved a work plan submitted by the PRPs for the evaluation of permanent alternate water supply alternatives for the Site. The final alternate water supply evaluation report is expected in December 2002.

Cleanup Progress

As part of the initial emergency response action EPA installed 57 POET systems in homes where the well was contaminated at or above MCLs to ensure a safe supply of water, and provided operation and maintenance of these systems and the three POET systems installed by homeowners prior to EPA's involvement at the Site. As of June 2001, a PRP assumed responsibility for operation and maintenance of the POET systems at the Site. In July 2001, the PRP offered to install POET systems in homes that were "threatened" or adjacent to homes with contaminated wells. Since July 2001, 37 POET systems were installed in "threatened" homes. The total number of POET systems installed is 99. To date, 61 homes have had MCL exceedances for PCE.

EPA removed the septic tank believed to be the source of contamination, and excavated approximately 1,600 tons of associated contaminated soil in November and early December 2000. During excavation of the contaminated soil associated with the former septic tank, two addition PCE disposal areas were discovered. Approximately 4,800 tons of contaminated soil associated with the former septic tank and the two PCE disposal areas was staged at the Site and removed for off-Site disposal by the PRP in August 2001. Excavation and Off-site disposal of approximately 2,000 tons of contaminated soil associated with the former acid pit was completed in January 2002.

EPA expects to conclude negotiations with PRPs and begin the initial phase of the RI/FS process by the Spring of 2001.

Site Facts

EPA signed an Order on Consent with a potentially responsible party on May 16, 2001, which provided for the performance of the remainder of the removal actions including operation and maintenance of the POET systems, and completion of the contaminated soil emergency response action at the 7 East Hook Cross Road source area. As part of the Order on Consent, In December 2001, EPA approved a work plan submitted by the PRPs for the evaluation of permanent alternate water supply alternatives for the Site.

Site Repository

East Fishkill Public Library, 380 Route 376, Hopewell Junction, New York
Telephone: (845) 221-9943 Contact: Sonia Long.
Hours: Monday - Friday 10:00 a.m - 8:00 p.m.; Saturday 10:00 a.m - 5:00 p.m.
Closed Saturdays in July and August.